

2004 Tuberculosis Epidemiology Report

TB in North Dakota – 2004

In 2004, four cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 0.6 per 100,000, North Dakota continues to be considerably below the national rate. (Figure 1)

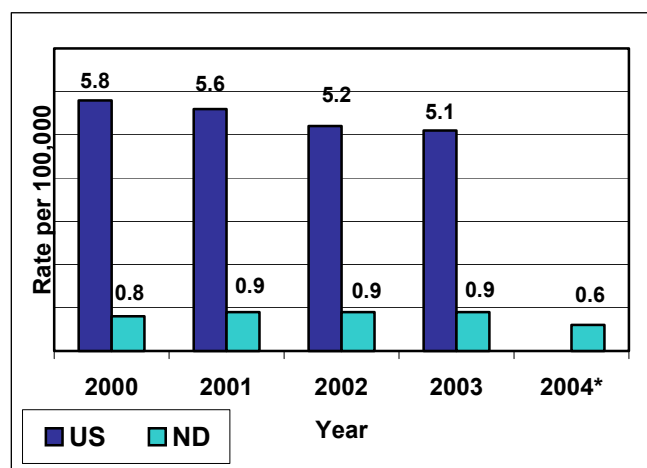


Figure 1. United States and North Dakota Tuberculosis Disease Rates, 2000-2004

*U.S. TB disease rates were not available at the time of the report.

Two of the tuberculosis cases were pulmonary and two were extra-pulmonary. Extra-pulmonary cases involved the retina and the leg.

The ages of the tuberculosis cases ranged from 29 to 80, with a median age of 53. Two cases were white, one was American Indian and one was Asian.

Risk factors associated with tuberculosis in 2004 included belonging to a high-risk racial/ethnic group, being foreign-born and having prior tuberculosis infection. No tuberculosis-related deaths were reported in 2004.

TB in North Dakota – 2000-2004

From 2000 through 2004, 27 cases of tuberculosis were reported in North Dakota. The number of annual

tuberculosis cases ranged from four to six, resulting in an incidence rate of between 0.6 and 0.9 per 100,000.

Of the 27 cases, 14 were pulmonary (52%), 12 were extra-pulmonary (44%) and one was pulmonary/extra-pulmonary (4%). Sixty-three percent of the tuberculosis cases were age 50 and older. The mean and median ages of tuberculosis cases during the past five years were 51 and 55 respectively. As shown in Figure 2, the median age in 2002 was lower than in previous years. This is due to the diagnosis of disease in four adults between the ages of 21 and 25 years.

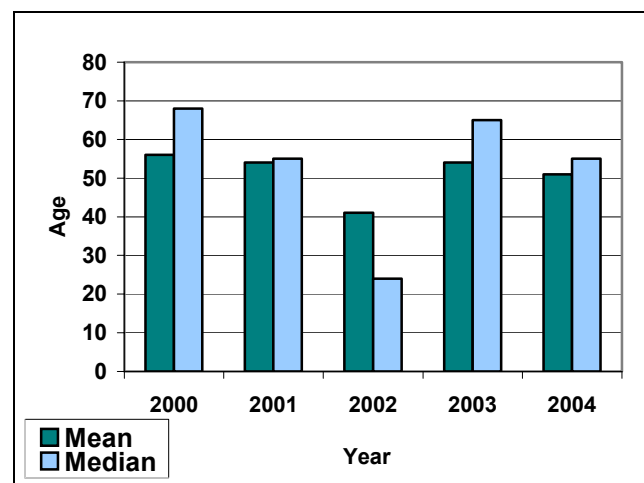


Figure 2. Tuberculosis by Age, North Dakota, 2000-2004

The race/ethnicity of tuberculosis cases during the past five years shows a disproportionately high number of the cases reported among minority populations. Cumulatively, American Indians, blacks and Asians account for only 6 percent of North Dakota's population but more than 50 percent of the states' reported TB cases. (Figure 3)

An increase in the diversity of the state's racial/ethnic populations during the past few years has contributed to the increased number of tuberculosis cases reported in these minority groups. While the number of foreign-born

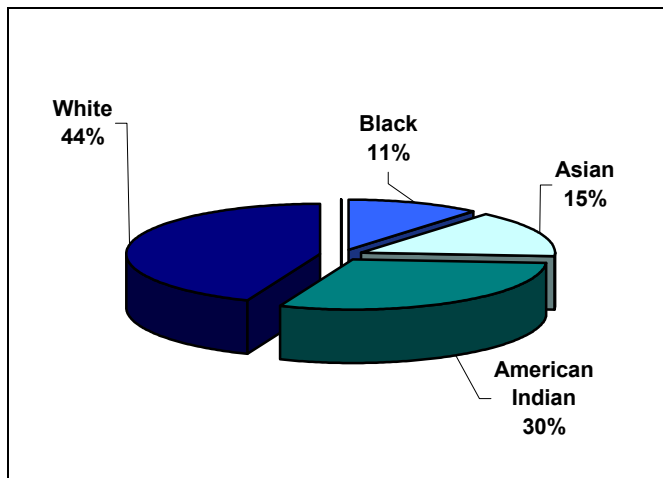


Figure 3. Percentage of Tuberculosis Cases by Race/Ethnicity, North Dakota, 2000-2004

people in the state represents less than 2 percent of the state's total population, it increased 29 percent between 1990 and 2000.

Drug-Resistant Tuberculosis

Drug resistant tuberculosis (DR-TB) and multi-drug resistant tuberculosis (MDR-TB) present difficult problems for tuberculosis control. This is due to the complicated treatment regimen for the index case and the treatment of latent tuberculosis infection in contacts to the index case. The contact's treatment regimen must be individualized based on the index case's medication history and drug susceptibility studies.

With the increase in foreign-born populations entering the United States and North Dakota, the potential exists for an increase of DR-TB. During the past five years, however, there have been no cases of multidrug-resistant tuberculosis identified in North Dakota. Furthermore, only one case of single-drug resistance has been identified; an isolate in 2002 was resistant to streptomycin.

Latent Tuberculosis Infection

Latent TB infection (LTBI) occurs when individuals are infected with *M. tuberculosis* bacteria through direct exposure to active tuberculosis disease.

People with infection do not have active disease and are not infectious. Clinical findings of LTBI normally include a positive tuberculin skin test, absence of symptoms and a normal chest x-ray.

The number of tuberculosis infections reported in North Dakota over the past five years is shown in Table 3.

2000	2001	2002	2003	2004
572	368	304	321	366*

Table 3. Reported Cases of LTBI North Dakota, 2000-2004.

*Provisional data.